



# Think Before You Act: Improving the Conservation Outcomes of CITES Listing Decisions

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The CITES treaty is the major international instrument designed to safeguard wild plants and animals from overexploitation by international trade. CITES is now approaching 50 years old, and we contend that it is showing its age. In stark contrast to most environmental policy arenas, CITES does not require, encourage, or even allow for, consideration of the impacts of its key decisions—those around listing species in the CITES Appendices. Decisions to list species in CITES are based on a simplistic set of biological and trade criteria that do not relate to the impact of the decision, and have little systematic evidentiary support. We explain the conservation failures that flow from this weakness and propose three key changes to the CITES listing process: (1) development of a formal mechanism for consideration by Parties of the likely consequences of species listing decisions; (2) broadening of the range of criteria used to make listing decisions; and (3) amplification of the input of local communities living alongside wildlife in the listing process. Embracing these changes will help to ensure CITES decisions more effectively respond to the needs of wildlife in today's highly complex and dynamic conservation context.

**Keywords:** CITES, conservation policy, international policy, sustainable use, wildlife conservation, listing criteria, appendices, Appendix II

## INTRODUCTION

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is almost 50 years old, and its age is starting to show. CITES has considerable strengths as the primary multilateral environmental agreement aimed to ensure that international trade in wild species does not cause conservation harm, including near universal accession (183 Parties) and an effective compliance mechanism (Sand, 2013). However, the trade that CITES was designed to regulate has evolved radically over the last 50 years, and CITES must also evolve to stay relevant.

At the heart of CITES are trade measures applied by Parties to species listed in the treaty's three appendices (Wijnstekers, 2018). For species listed in Appendix I, international trade is prohibited in all but exceptional circumstances. An Appendix II listing allows trade, subject to a range

of conditions aimed principally to ensure legality and ecological sustainability (see Rose, 2014). Appendix III includes species of which individual countries are struggling to regulate domestic trade, and seek assistance from other countries to control trade (Wijnstekers, 2018). Decisions to amend the appendices (including addition or deletion of species, and transfer between Appendices), and other amendments (e.g., revision of quotas and annotations), are taken at biennial/triennial Conference of the Parties (CoP) meetings (adopted by at least a two-thirds majority vote), based on biological and trade criteria specific to each Appendix. Listing decisions fundamentally shape the conditions of international trade for the species concerned, because they determine the type and source of trade that is allowed and associated permits required.

However, the listing process is premised on the simplistic notion that increasing trade restrictions will improve the outcomes for species, without clear prior evidence to support this assumption. The listing mechanism was a reasonable response to conservation challenges in the early 1970s (when CITES was designed). However, the nature and scale of wildlife trade, the global conservation landscape, the scope of CITES regulation, and global trade dynamics more broadly, have since changed beyond recognition (Lloyds Register et al., 2013; Harfoot et al., 2018). Today, listing species in CITES Appendices often fails to result in the intended positive conservation outcomes. Here, we examine the fundamental logic of the CITES Appendix listing process, drawing on a number of examples. We propose changes to strengthen the CITES decision-making process to ensure listing decisions have the conservation benefits they intend.

## THE PROBLEM

CITES Parties make decisions on Appendix listings and/or amendments without any formal consideration of the consequences of those decisions. The criteria for listing species<sup>1</sup> do not promote or mandate consideration of such consequences. Instead, the tests for including a species in the Appendices direct Parties to consider only whether a species is in trade, and actual or potential levels of threat it faces, not the likely conservation consequences of proposed listings. The assumption is that **if an internationally traded species faces a level of biological threat, its conservation will benefit from trade restriction**. Yet this assumption has no systematic evidential basis and, as we argue below, is frequently false.

In practice, CoP deliberations on species listings do range beyond the formal listing criteria. Parties and/or Observers regularly raise issues related to conservation impact, such as the challenges they will face in implementation, potential impacts on local livelihoods (and knock-on conservation consequences), and the “signals” that decisions could send to certain actors (e.g., poaching syndicates and other market actors). Nevertheless, such considerations are not part of the formal CITES listing process and there is no requirement for Parties to consider them. Indeed, it is a commonly made argument that Parties

should *only* consider the listing criteria, that parties should *only* consider scientific (and specifically biological) information in their decisions, that they explicitly *not* consider impacts of listing decisions, and that considering such impacts would undermine the nature of CITES as a science-based treaty (Thorson and Wold, 2010; Challender and MacMillan, 2019). Such arguments have repeatedly (and successfully) been deployed in CITES CoPs and Standing Committee meetings to, for example, counter recommendations from the CITES and Livelihoods Working Group that decision-making consider the impacts of CITES interventions on the livelihoods of local users in order to understand their likely conservation consequences for species (CITES and DEA, 2016).

In other multilateral environmental decision-making arenas (as in national jurisdictions), the consequences of conservation actions are a key focus of debate. Imagine the United Nations Framework Convention on Climate Change (UNFCCC) adopting measures against climate change without any explicit consideration of how those decisions will actually affect the climate (or, more extreme, arguing that such consideration is unscientific). Detailed assessments of the climate trajectories likely to follow from potential Convention commitments are a crucial aspect of, and input to, negotiations. CITES presents a stark and unfortunate contrast. Below, we discuss the implications of this issue for Appendix I and II listings.

## APPENDIX I: ONE SIZE DOES NOT FIT ALL

For Appendix I, the assumption that a ban on commercial trade will improve the conservation of a threatened species is intuitively sensible. In some cases, it is well-justified. We suggest that the case for Appendix I is generally uncomplicated when:

- 1) international trade is the key driver of threat,
- 2) the species faces threats across its range,
- 3) where international trade is not playing any positive role, and
- 4) where Parties at the same time implement a realistic, achievable strategy for long-term conservation of the species.

In the case of vicuña *Vicugna vicugna* (a small South American camelid), for example, the establishment of trade bans (by both CITES and the pre-existing Vicuña Convention) in a situation of rampant uncontrolled poaching, with no models of well-managed trade, helped drive poaching and illegal trade downward and enabled recovery of populations through focused protection efforts. After recovery, the ban was lifted and a successful community-based sustainable use program was developed (McAllister et al., 2009).

In other cases, evidence indicates Appendix I listing does not improve species conservation. This is likely when:

(1) *A species proposed for listing in Appendix I is threatened by drivers other than international trade*. In this case, imposing an international commercial trade ban may be irrelevant (or even counterproductive). For example, the polar bear *Ursus maritimus*

<sup>1</sup>Set out in Res. Conf. 9.24, Rev. CoP17.

has twice been put forward for uplisting from Appendix II to I, affecting trade from Canada (the largest range State, and the only range State without a national ban on trade; see CITES, 2016). However, polar bears are threatened by reduction in sea ice, not by trade; trade is a by-product of a cultural/subsistence harvest that would continue whether products were traded internationally or not (Wiig et al., 2015). Income to Inuit hunters, however, would be removed, potentially leading to less engagement in conservation and more conflict killing. Where international trade is not driving population decline, curtailing it is unlikely to help.

(2) *The conservation status of wide-ranging species varies considerably across their range, where they face many different contexts and forms of use and trade.* For example, there may be well-managed forms of use and trade in some countries while, at the same time, illegal and detrimental exploitation in others. At each CoP, proposals are submitted calling for Appendix I listings that are only justified in part of the species' range. For example, Saiga Antelope *Saiga tatarica* was proposed for Appendix I listing at CoP18. In one range country (Mongolia) the population is small and declining and likely meets Appendix I criteria, whereas in the main range country (Kazakhstan) the population is large and increasing with no evidence of meeting the Appendix I listing criteria. An Appendix I listing, under a “blanket” approach, would likely undermine successful working management models involving use and trade, and reduce conservation options for the global population (see Milner-Gulland, 2020). While CITES has evolved a “split-listing” approach (some populations in one Appendix, some in another) that has been successful for a number of species (e.g., vicuña, saltwater crocodile *Crocodylus porosus*) this is now discouraged (see CITES Res. Conf. 9.24, Rev. CoP17).

(3) *Unsustainable trade will persist despite its illegality.* If trade in a species is already illegal, then inclusion in Appendix I will often have little positive affect. It is possible that Appendix I listings may increase political will and resources dedicated to law enforcement (e.g., the tiger *Panthera tigris*; see GTRP, 2012). Alternatively, this measure could lead to scarcity-driven price increases and increasing poaching rates, and there are numerous examples of illegal trade in species thriving after inclusion in Appendix I (e.g., pangolins *Manidae* spp., African elephants *Loxodonta africana*, and orchids *Orchidaceae* spp. (Hinsley et al., 2018; Challender et al., 2020; Schlossberg et al., 2020). This situation is likely where:

- trade income (albeit illegal) is one of few livelihood options at the point of production, with no readily available or attractive alternatives (e.g., pangolins),
- powerful supply-side actors exist in trade and (corrupt) governments, and are invested in illegal trafficking activities (e.g., rhino horn trade from South Africa to Viet Nam; Hübschle, 2016)
- demand is longstanding and deeply entrenched, and not sensitive to price (Conrad, 2012; Challender et al., 2019),
- enforcement is difficult (e.g., due to remoteness, low capacity and resources, and/or low political priority; Challender and Waterman, 2017).

In such contexts, Appendix I listing can help species conservation only if accompanied by strong and well-funded management interventions e.g., shifting incentives for local users, building strong on-the-ground protection and enforcement and/or strengthening local governance structures. In reality, however, this is very rarely considered at the time of listing decisions (Challender et al., 2019). Listing species in Appendix I can also create incentives for captive production (Appendix I species are treated as if they are Appendix II if they are captive-bred, and can be traded for commercial purposes; Article VII, Para. 4). Shifts to *ex situ* production of wildlife can have unpredictable conservation impacts, such as laundering, depending on factors including comparative costs of production and consumer preferences (Natusch, 2018; Hinsley and 't Sas-Rolfes, 2020). These real-world complexities are largely ignored by the Parties to CITES, in favor of the simplistic assumption that trade prohibition will assist species conservation. In reality, the outcome is often continued illegal and unsustainable trade, with loss of any effective monitoring or management tools.

## APPENDIX II: UNFULFILLED POTENTIAL?

Unlike Appendix I, CITES Appendix II listing offers the flexibility to tailor management options to the local context. It provides for international co-operation through a set of conditions and international trade permissions. The Convention text itself sets out a common-sense test for the listing of species in the Appendix; that is, a species should be included when regulation is required to ensure it does not meet the criteria for inclusion in Appendix I. This broad test would allow Parties to evaluate whether trade regulation will ensure a positive conservation outcome for a particular species, considering e.g., how traders and local communities will be affected, how they will likely respond, and how this response would then affect the conservation status of the species. However, the detailed listing criteria (Res. Conf. 9.24, Rev. CoP17) do not require information beyond trade and biological data to be considered by Parties in proposals. These criteria again express the untested assumption that trade regulation is a justified and appropriate conservation response for traded species facing a particular level of biological threat. But, as with Appendix I species, there are situations where this is not the case and, indeed, where listing provides little advantage yet comes at significant cost.

For example, giraffe *Giraffa camelopardalis* were listed in Appendix II at CoP18, despite the key threats to the species comprising habitat loss, civil unrest, illegal hunting for subsistence use of meat and hides, and ecological change (Muller et al., 2018). There is limited international trade in giraffe and there is no evidence that international trade poses a threat to any giraffe populations, or is likely to in the foreseeable future (IUCN and TRAFFIC, 2019; Dunn et al., 2021). Indeed, the countries that legally trade giraffe products have stable or increasing populations. It is difficult to see how CITES trade controls will improve the conservation status of giraffe, despite this listing being widely hailed as a “win” for conservation of the species (e.g., Wildlife Conservation Society [WCS], 2019).

Where international trade is, or could be, a significant driver of conservation threat, an Appendix II listing can provide a powerful set of tools for trade regulation and impact evaluation. Unfortunately, these measures are too often poorly implemented and enforced, and negative impacts of trade fail to be contained, frequently resulting in the case being made for an Appendix I listing (e.g., as with pangolins; Challender et al., 2020).

But why are Appendix II measures poorly implemented? The answer lies—in part—in the narrow context in which Appendix II listings are formulated and pursued. Critical stakeholders like local harvesters and traders are viewed as subjects of regulation rather than key stakeholders necessary for making conservation solutions work. CITES Appendix II listing decisions are made without any explicit attention to the costs of implementation, how they will be implemented in the relevant value chain, or how regulatory measures will provide positive incentives for compliance and adoption of good practice. This has created the perception that a species listed in Appendix II is in the waiting room for Appendix I, when in fact Appendix II is a form of certification that trade is legal and sustainable, and can actively prevent inclusion in Appendix I.

Engaging a broader suite of stakeholders in listing decisions, and expanding listing criteria to examine a greater range of factors influencing conservation outcomes, will ensure increased regulation required by governments is commensurate with local contexts, more manageable, and cost effective. Failing to do so risks range states banning legal trade rather than attempting to regulate it, potentially resulting in poorer outcomes for species and people. For example, the Philippines does not trade any Appendix II-listed seahorse species (Christie et al., 2011). This has not only curtailed a source of livelihood for harvesters and traders but has also negatively impacted conservation. The ban did not stop seahorse fishing; instead, it created a black market, and further narrowed the policy options available to manage trade at the local level. Evidence suggests increased prices for seahorses, new fishers entering the market, erosion of NGO and government agency legitimacy, and damaged trust and cooperation on coastal resource management (Christie et al., 2011). Similarly, ensuring that listing decisions accurately reflect the criteria mitigates the need to expend precious conservation resources on species such as the giraffe, where international trade clearly poses no conservation threat. Doing so allows those resources to be channeled more appropriately to species in genuine need of conservation action (Nossal et al., 2016; Khadiejah et al., 2019).

## HOW SHOULD A REFORMED CITES MAKE DECISIONS ON AMENDING THE APPENDICES?

Wildlife trade takes place within complex social-ecological systems, as part of dynamic processes at multiple scales with intersecting social, economic, cultural, and ecological elements (Larrosa et al., 2016). Regulatory decisions are therefore interventions in these complex systems. Their impacts do not smoothly follow a simple cause-and-effect chain, based on

a circumscribed set of parameters (Booth et al., 2021; and see Braverman, 2016). Understanding the likely conservation impacts of CITES decisions requires understanding how a regulatory change will affect the set of interacting dynamics that link this intervention to conservation of species on the ground.

The potential for positive conservation impact through introduction of trade measures cannot be assumed, or answered exclusively by biological science. Evidence-based analysis of a variety of socio-economic factors is equally, if not more, important to determining positive conservation outcomes. By failing to address such factors explicitly, CITES decisions are frequently made using very narrow criteria, and may be influenced by factors outside the scope of the treaty, such as animal rights and ethics (Challender and MacMillan, 2019). To reform CITES so that it is able to respond to the complex, rapidly changing dynamics of wildlife trade, we suggest that the following key principles need to be built into future CITES listing decisions:

(1) ***The likely conservation impacts of any important decision should be explicitly assessed and considered.*** Parties should not make decisions based on accepted convention or simplistic criteria, but after carefully considering how they are likely—in practice—to affect species conservation. Species conservation should remain the clear focus of CITES—but the listing criteria and process to amend the Appendices need overhauling to ensure the Convention can achieve it. An explicit commitment to this principle would mean CITES is not used as a futile gesture of conservation concern in situations where it is poorly designed to address the threats a species may face. This consideration could take many forms. As part of proposals, Parties could set out expected impacts, theories of change and their underlying assumptions. For high-priority species, scenario planning exercises or a form of rapid participatory appraisal could be used in national or range State workshops.

(2) ***Decisions should be based on the best available information.*** This includes all relevant scientific information—including from the social and economic sciences—that helps Parties understand how their decisions will affect conservation. This would make CITES a genuinely “science-based” forum. But the information included should go beyond science in order to address questions such as whether there is sufficient law enforcement capacity in a country to implement the decision, how the private sector will respond, how relevant landowners will respond, how rural community members will respond, and how consumer demand may change. Information approaching the standard of rigor required by science is rarely available on such questions; and yet their answers will typically determine the real-life conservation outcomes of a decision. Understanding them provides the best opportunity CITES Parties have to make decisions that actually foster long-term species conservation.

(3) ***The rural communities who live with wildlife should have a strong and formally supported voice.*** Local people disproportionately bear the socio-economic costs of wildlife trade decisions. No other group faces such significant—even existential—impacts from wildlife decision-making, whether from wildlife trade, wildlife depletion, human-wildlife conflict, or field-level wildlife conservation and enforcement measures. Justice therefore demands they play a role in decision-making.

And pragmatically, effective decision-making requires the insights and information these groups bring, particularly on the nuanced and context-specific questions of how a trade intervention will translate to field-level species status (Cooney and Abensperg-Traun, 2013). Securing the support and buy-in of rural communities to conservation decisions is an important element in success, and enabling and supporting participation is critical to achieving this. CITES is a notable laggard in supporting the participation of Indigenous Peoples and local communities in its deliberations (Cooney et al., 2018; Sellheim, 2020). This exclusion is striking in the context of the vastly more extensive and influential network of animal protection NGOs that participate in and shape decisions at CITES meetings (Challender and MacMillan, 2019; and see Duffy, 2013), despite their tangential relevance to field-level conservation outcomes and responsibilities. A basic step toward a twenty-first century Convention is formal recognition and meaningful support for participation of rural representatives of Indigenous Peoples and local communities in CITES deliberations. We encourage Parties to include such groups in their delegations to CITES, where appropriate, and to move toward creation of formal mechanisms for their voices to be heard.

In conclusion, our main message is that Parties to CITES must think before they act if listing decisions are to meet their stated conservation objectives. Expanding the range of formal tools and information available for consideration of Appendix listings will help achieve this. Failure to do so risks CITES being stuck in a 1970s conception of conservation that ignores complexity, fails

to achieve its objectives, and satisfies only a set of constituencies with little responsibility or impact on field-level conservation. The question is not if these modernizations will happen, but when and how. This is a matter of strategic vision that needs to be addressed with urgency and commitment if CITES is to avoid senescence, but rather mature into a potent and effective conservation regime well-equipped to address contemporary conservation challenges.

## DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author/s.

## AUTHOR CONTRIBUTIONS

RC drafted the initial version of the manuscript. DN carried out an extensive final re-draft. All authors extensively commented on the draft, re-wrote sections, and made important conceptual contributions that shaped the arguments within the manuscript.

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